

**KDHE Division of Health**  
**Transcription of Pandemic Flu Forum**  
**Topeka, KS - October 10, 2005**

**Participants:**

**Ms. Sharon Watson** – Director, Office of Communications

**Dr. Howard Rodenberg** – Director, Division of Health

**Dr. Gail Hansen** – State Epidemiologist, Bureau of Epidemiology & Disease Prevention

**Press Conference:**

**Watson:** Good morning, everyone. I'm Sharon Watson with the Office of Communications. We appreciate you being here today. We also have viewers on our Intranet for the first time ever, I think, in KDHE history where we've done a live broadcast on our Intranet. So I'd like to thank Jeff Coen from the bottom of my heart for making that possible because it was quite a task, I understand. I'd like to introduce to you the speakers that we have today: Dr. Howard Rodenberg, our new Health Director, and in case you haven't had a chance to meet him, you will get to hear from him very soon. He's a delight to travel with and work with, and just to have around.

**Rodenberg:** We've been locked up together in a van for the last seven days...

**Watson:** We've done 12 pandemic flu forums around the state of Kansas, and one more tonight in Lawrence, and then a potential one coming up, I think, in the next couple of weeks in another city. That's not too far away. It's been fun. We've had a great opportunity, and I missed the Western Kansas leg, which is where they just got back from – Dodge, Hays, and Garden City, and the Snowy Road – so I'm glad to see they made it back. Dr. Gail Hansen, who is our state epidemiologist and just moved into that position not too long ago, so congratulations to her as well. We will get started with Dr. Hansen.

**Hansen:** Thank you. For those of you who know me, you know it makes me crazy to stand in front of a podium and speak, but I'm going to do it anyway because the microphone is here, and they told me I had to. Hopefully everyone's here to talk about flu, or listen about flu and pandemic flu, because if not you're in the wrong place. But it's cold out there, so just stay! So we're going to talk first about seasonal flu, what we call regular influenza; then talk about how to keep healthy during the flu season; then go into pandemic influenza, and talk about bird influenza, and try to get those things separated out and put together as they should be. We'll talk about how we are planning at the state level for a pandemic, and then open it up for questions and answers. If you have questions and answers, for those of you who are here, feel free to ask them during the presentation, or there will be time afterwards. For those of you who are on the Intranet, I'm not quite sure how that works. I think you just have to send them in.

First of all, to keep us all on the same page: keep in mind that influenza is a virus, and there's a picture of it up there [points at projector screen]. That's what the virus looks like really up-close and personal. There are different types of influenza viruses: there's influenza A, influenza B...they're all influenzas. They all do the same thing, but there are different types of them and within those types – especially the A type of virus - they are sub-typed by what the outside, what you can see in the picture, looks like. They're typed by H's, which is hemagglutinin, and N is for Neuraminidase – that's what that H and N is. So when you hear about that H5N1, which talks about a specific type of the influenza virus. Then we can further sub-type it down to the point where it's like a personal, best friend kind of name. The thing with the virus is that it changes, or mutates, all the time and fairly rapidly. Usually they are small changes; they don't change a lot, but it's a virus that changes pretty quickly. That's some of the reason that, as we talk about vaccine, a new vaccine is needed every year to protect you against influenza – because the virus changes or mutates a little bit every year, or all through the season. So our bodies don't always recognize it as being an influenza virus, so we can't make an immune response. We can't make antibodies to fight off the virus when it changes enough. The thing to remember, because it is a virus, is that viruses don't respond well to antibiotics. So if you have a virus, including influenza virus, an antibiotic isn't going to cure you. It isn't going to help you with a virus, so keep that in mind. That'll show up again later today.

How do you spread the flu? We talk about how to spread the flu so you'll know how *not* to spread the flu. It's a virus that affects the respiratory tract, which means the lungs, so it's spread by stuff...the virus that's in your lungs coming out...that's through sneezing and coughing. There's a couple of ways you can do that. If a person sneezes – or especially coughs – on you (this picture really shows somebody coughing, and you can really see those droplets), those droplets – if you are close enough to that person and inhale them – you can get influenza that way. The other way is what we call fomites, and a fomite is just a fancy word for an inanimate object that the virus will sit on, that – for example, if I cough on this lectern, and my droplets will end up on the lectern, the lectern is a fomite – then when Dr. Rodenberg comes and touches this lectern, and then puts his hands to his face (his eyes, his nose, or his mouth), he can get influenza that way. So the lectern is a fomite: it holds the virus for a time until somebody else can come along and get it. So lecterns, telephones, doorknobs...any kind of a surface that the virus can sit on for a time to be able to transmit the virus also works very well for spreading the flu. So as an epidemiologist, we talk about who, what, when, where, why kinds of things. So I want to talk about influenza: who gets it? When does it happen? Where does it happen? The easiest part is, “who gets it?” Basically everybody can be susceptible to influenza. Because it changes every year, some of us are always a little bit more susceptible to influenza every year. Every year – even in a regular year – every year we have influenza epidemics, essentially. Every year we have people who get sick, obviously; we have people who are hospitalized, and we have people who die every year of influenza. Usually the people who get very sick – who end up in the hospital and die – are those people who are very old, those who are very young, and those people whose immune systems aren't working very well. And the reason is how the virus gets fought off is by our immune system that makes antibodies that fight off the virus. If you're very old, very young, or your immune system isn't working, you can't fight that off. So you're liable to get the virus doing bad things to you, but you're going to get complications from some

other virus or bacteria that comes on top of a body that is already working as hard as it can. That's usually where we see more of our hospitalizations and deaths. So where does influenza show up? It shows up everywhere, but I can't tell you exactly where it's going to be, and we know that it shows up every winter: in winter in the northern hemisphere, and winter in the southern hemisphere. I can't tell you exactly what day, or exactly what block it's going to show up first. Every year it's a little bit different, except we know that every year it shows up. Every year it shows up in Kansas. It doesn't show up uniformly across the state every year; some years you'll hear that Kansas City has a lot of influenza, and the next year it may be Hays that has a lot of influenza. So we know it's going to show up every year. What we can't predict is exactly when it's going to show up and exactly where it's going to show up. Usually the height of our flu season is the end of January. Sometimes it's a little earlier, a little later. Sometimes we have a second wave, but usually we're looking at the middle to the end of January as being the peak of the influenza season. Now I'll turn it over to Dr. Rodenberg.

**Rodenberg:** We've developed this routine over the last 12 "shows," if you will. We tend to "tag-team" this, because we figure that if you get bored with one of us, the other one will chip in. The other thing you notice is that Dr. Hansen and I both have different tones of voice, so if you drift off to sleep with one of us, we figure the other one will jar you back awake. It is a true pleasure to be in Topeka, and people probably don't hear that very often. This time last year, I was a county health director in Florida, and if you had told me a year from then I would find it to be an absolute pleasure to be in Topeka at the first of December, I would have looked at you rather quizzically. But I have to tell you that after spending literally the last two weeks locked up in vans and traveling in the state – and it's been great. We've seen lots of cool things. We saw the world's largest hairball in Garden City. We've seen lots of cool things – but it truly is a pleasure to actually be back in Topeka.

So let's talk a little bit about what influenza actually is. We tend to use the term flu like a wastebasket term. Any time you get sick in the winter you say it's the flu. But in fact, influenza refers to a very specific set of signs and symptoms. It's a sudden onset, and it lasts a few days. You don't get a flu that hangs on for two or three weeks. It doesn't happen that way. The symptoms are the fevers, the body aches, headaches, a cough (and that's a non-productive cough, that's a cough where you're not coughing up yellow stuff, and you're not bringing up green stuff), and you're just really tired. Lots of malaise, lots of fatigue. What's interesting about these definitions is all the stuff that's not in there, because how many people have had nausea, you've got vomiting, and you say you have the stomach flu. Ok, a few people are fessing up. We all do it, but in fact, influenza virus is a respiratory virus. There are lots of viruses, and a few kinds of bacteria, that cause nausea/vomiting/diarrhea, but it's not the flu. Ok? So the flu is not there. The other things that's not there are runny nose, stuffy head, and things that people associate with the common cold. But again, it happens in the winter, it happens in flu season, so people say "well I've got the sinus flu" or something like that. Flu symptoms really don't center on the nose. It's not the runny nose, it's not the stuffy head. It's more the body aches, it's more the dry, non-productive cough, headache, and the fever. There are two reasons it is good for us to go over this. One of them is that if you can kind of figure out what you have at home, then you'll know what to go buy at Walgreens so you

don't waste your money and you buy the right thing. The second reason is because, as we look toward pandemic influenza (and Dr. Hansen and I will both talk more about that later), we realize that pandemic influenza can put a stress on the entire healthcare system. We want people to be able to identify when they really have something – and they need to seek help – versus something that's going to be self-limited, something that's going to go away by itself or they can treat – so they won't have to tax that system and take resources away from that system who might need it. And this just talks a little bit more about the difference between colds and influenza. Colds, again, center on the nasal symptom – stuffy nose, runny nose, sneezing, a little bit of a sore throat. With flu you feel sick everywhere, and you have that non-productive cough, relatively low fever – if at all – with a cold; fairly high fever – at least 102 and above – with influenza. There is a vaccine for influenza, and we'll talk more about that in a moment. No vaccine for the common cold, and the common cold is *common*. Influenza, although it happens, really is nowhere near as common as the cold.

So what can you do as an individual to protect yourself and protect your family from the flu? I like telling people the story that my parents were really, really smart until I hit about age fourteen. And then when I hit fourteen, they turned dumber than rocks. At about 34 or 35, they started getting smart again, and they're still on the up-slope. They're not where they were. But the things they told you thirty-five, forty years ago to protect yourself from the flu are still the absolute right things. We do such a good job of talking about immunization and talking about vaccination that a lot of times real basic stuff gets forgotten. So what's the real important stuff? Well, washing your hands. It doesn't matter whether you use soap, or use hand sanitizer, or even the little wet wipes that you get at the barbeque place. It doesn't matter. The key is to really wash your hands real good for about 15 to 20 seconds. Get those dead skin cells, those germs off there, and then rinse them off. It actually works. Cover your mouth when you cough. Dr. Hansen showed that slide about what comes out of your mouth when you cough and sneeze. The analogy that I always think of is when you're driving and you sneeze...do you guys look at your steering wheel, at what is on the steering wheel? This hasn't happened to anybody else here? I'm the *only* one who sneezes when I drive. Ok, but all that stuff is what comes out every time you sneeze (and if you're looking for a good definition of a fomite, an inanimate object, this steering wheel then becomes a fomite for the next person who wipes their hand across the steering wheel), you've got to cover your mouth when you cough, because if you're sick, those droplets are all full of germs; they're all full of viruses. So cover your mouth with a tissue when you cough, and if you don't have a tissue or something, you can kind of cough in your sleeve because very rarely do we shake sleeves. We shake hands, not sleeves. Then hand washing goes along with that. If you're able, stay home when you're sick. Not only does that help you get better faster, but it stops you from giving disease to somebody else, and the same goes for the kids. Kids actually transmit diseases zillions percent faster than humans...wait, than "humans," that sounds wrong...that comes from being the father of an eight-year-old and wondering what alien life-form he is most of the time! Children do pass disease a lot more readily than adults because they don't know the basic hygiene stuff – they don't have it burned into their brains. So if your child is sick, you keep your child home, let the child get well, and you don't affect other kids at school. Avoid crowds during outbreaks. Not only if you are sick do you not want to pass things to other folks, but if you're in a tight crowd and

other people are sick, you can get the virus; you can get infected from them. Dr. Hansen will talk in a moment about this, but you can be asymptomatic from the flu but still be able to transmit it for a day or two before you actually start to develop any symptoms. So being in the middle of a crowded place in the middle of a flu outbreak is probably not a great thing to do. And then If you qualify, if you're a high-risk group and you're interested, certainly consider vaccination for the flu.

I want to talk a little bit about vaccination, because this is something that has been talked about in the press; it's been talked about, certainly, here in Kansas. We've seen a lot of issues with vaccine in Kansas, so it's worth talking about what the flu vaccine actually is. The flu vaccine is what is called a trivalent vaccine, and all that means is that there are three different ingredients in it, if you will. There's two Type-A viruses and one Type-B virus in it. The way they make this vaccine is it's made in chicken eggs, and it's about a six-month process to make the stuff, so you can't make the vaccine right before flu season. What you have to do is you have to figure out what you're going to put in the vaccine almost ten months beforehand. Every year the CDC gets together a group of bright guys, and they come up with what they think their best guess is, as far as what's going to happen that later flu season. Most of the time they get it right; sometimes they get it wrong. You may remember in 2003, there was a strain called Fuji that emerged at the last minute, and it caused some morbidity – caused some mortality – in some kids in the Denver area, specifically in a hospital in Colorado. People were saying, “did the vaccine fail?” Well, the vaccine didn't fail, because it did in fact protect people against what the vaccine was designed to protect against. But flu viruses change so radically and so quickly that every once in a while a strain will peek out that just isn't anticipated ten months earlier. So the vaccine does work. There's a new vaccine every year, because the demographics of the virus keeps changing every year. There's the injectable form that we're all familiar with that's called the killed vaccine (the virus is literally dead in there). That's the flu shot that we give. There's also the live form of the virus that's called a live attenuated vaccine. The virus is alive, so it can cause some minor symptoms, but it can't reproduce, so it can't cause the full-fledged influenza syndrome. We can use that – that's the FluMist product you may have heard of – but because it can cause symptoms, we generally reserve that for people who are otherwise healthy, ages about 5 to 59. You've probably heard of that product. One thing that is important to note is that vaccines don't cause the flu. A lot of times, you'll hear about people – and I've heard a lot about it some on this tour – people will get a flu shot, and a couple of days later they feel real cruddy. They feel tired, wiped out, and stuff like that, and they'll think they got the flu from the flu shot. That's not what happens at all. The best analogy I can think of is when you have a little kid, and they get a measles/mumps/rubella shot or a diphtheria/tetanus/pertussis shot, a couple of days later they may have a little redness around the site. They may have a low-grade fever, and they may act a little cranky. That's not because they've gotten the disease from the immunization. What that is is it's their body's way of manufacturing its inflammatory, immune response of building up antibodies to the vaccine – which is why you give the vaccine in the first place. So do people occasionally feel cruddy after the flu vaccine? Yeah, they do. Is it because the vaccine gives them the flu? No, it's not. It's physically impossible – it can't happen that way.

So who needs vaccination? Well, we base our vaccination criteria on people's immune systems. It's got nothing to do with demographics. I've even heard people say

“you recommend it for people 65 and over because you can bill Medicare.” That’s got nothing to do with it. It’s all based on concepts of immunity. As Dr. Hansen mentioned, all of us are walking around with some degree of immunity to influenza virus simply because we live on this planet, and influenza viruses are all around us. So the people we want to give extra protection to are those folks whose immune systems are not working as well as others. So who are those folks? Those are folks who are over 65, because as we age the efficiency of our immune system decreases. Those are people in long-term care facilities, because not only do they often have chronic health problems, but also they are packed-together, so they can transmit real easily. People ages 2 to 64 with other conditions which can impair the immune system – things like heart disease, asthma, and diabetes, HIV/AIDS, people with cancer and on chemotherapy, people on steroid medication. Children less than two years of age – they don’t have fully-functioning immune systems yet. That’s why we’re giving them vaccinations to start with, so they’re also high-risk. Pregnant women, because we want to get some of that antibody into the fetus. Healthcare personnel are on the list. They are a little farther down on the list, but you want to make sure that you have enough healthy people available to take care of the sick folks. And finally, household contacts and child-caregivers of kids less than six months of age. Those kids are too young to get the flu shot. So how do you protect them? You protect them by immunizing the people who are taking care of them so they can’t transmit the disease on. Certainly everyone else can get the flu vaccine, as well, but when we talk about high-risk groups and priority groups, that’s who they are. How do we choose them? We choose them strictly on the basis of who’s got an intact immune system and who’s immune system might be a little deficient, and put those folks at higher risk of complications from influenza.

One of the hot topics that has come up this year has to do with the vaccine supply. There have been places in Kansas – and we’ve gone all over the state now – we’ve been in places where sometimes stores will have the vaccine, but a doctor’s office won’t; the doctor’s office will have the vaccine but the county health department won’t; a hospital will, but the health department won’t; and every variation in between. People are asking, “is there a shortage of flu vaccine?” Well, the federal government will say that there is no shortage of flu vaccine, and they’re actually right. If you look at the overall number of flu vaccines out there, there’s going to be anywhere from 70 to 80 million doses of vaccine out there this year, which truly is the most that they’ve ever had at any time in history. What’s happening is we’re seeing some distribution issues, a maldistribution, and there’s a couple of strands that play into this. It’s not that any one is particularly more implicated than another, but a number of these things are weaving together, I think, to cause distribution issues. One of them has to do with purchasers. Vaccine is made on the open market. It’s made on the free-market by private companies. Just like any private company, if someone buys more or less, they may get service relatively faster or slower. You can think of it as a car dealership. Somebody’s going to walk in and offer to pay top dollar for 100 cars, you’re going to service them and supply them faster than you might to an individual consumer who’s going to pay a little bit less and who’s going to buy a single car. There’s nothing wrong with that, - it’s just the way the free-market system works. A second factor has to do with batching of doses, and it’s always happened – every year since we’ve made flu vaccine – that it doesn’t come out all at once. The manufacturing capacity just doesn’t exist in this country to make 80 million doses all at

one time. It has to come out sequentially. So there's a bunch that comes out in October; there's a bunch that comes out in November; and there's a bunch that comes out in December. That's what has happened as long as we've made flu vaccine. I think what's happened is that, because of the flu shortage last year, we're just really keyed into it. We're really keyed into looking for that. So if people are going to get their orders filled in November or December, and they don't have any in October, it's perceived that they're not going to get any, that there's a shortage. It has everything to do with the manufacturing process. And finally, there are some lower numbers now anticipated. At one time, we were looking at upwards of 90 million flu vaccine out in the country. Now it looks like we're going to be high 70's to 80 million. Again, still more out there than any time in history, but potentially less than we anticipated. So all these three things are weaving together, I think, to give the perception of a shortage. There's not a shortage, but I think there is a distribution issue. Everyone pretty much recognizes that. The federal government and their pandemic flu plan has even talked about the distribution issue, that they know they have to work on the distribution system. This is the kind of thing that is going to take a federal fix. It's nothing the county health department can do, it's nothing your doctor can do; it's nothing that we here at KDHE can do. This is a federal fix, kind of like last year when they federalized the vaccine supply, and they gave it out through states and county health departments. What we can do as individuals, and as people who are interested in health, is to remind people that vaccination season goes all the way to the turn of the year. What happens a lot of times is that in November and December, vaccine is left on the shelf because we've done such a good job of pushing early vaccine that people figure if you haven't gotten your vaccine by the end of October, there's no point in getting it. The height of the flu season doesn't hit until the tail-end of January, so by all means people can get immunized and be safe all the way up through the turn of the year. So if you know people who need flu vaccine, if you know people who are interested but they say it's too late, it's anything but too late. Please help us use up that vaccine on the shelf. Remind people that they can get vaccinated and get themselves protected all the way through the turn of the year. It's a great, cheap Christmas gift if you don't have any other choices for people.

How do you treat the flu? Again, mom and dad were right. This is the commonsense stuff: fluids, rest. There actually is science behind chicken soup, believe it or not. Chicken soup works. Medication to reduce fever and body aches: we generally recommend Tylenol, Advil (ibuprofen), Naprosen, things of that sort. Aspirin every now and then, especially in kids, will set up to cause this toxic reaction called Rye Syndrome. It involves the liver and the kidneys, and the whole thing is kind of a mess. So in general, we just advise people if you think you've got the flu or a febrile illness – an illness with the fever during the winter – stay away from aspirin. Use Advil, use acetaminophen (which is Tylenol), use naproxen (which is Naprosen). Those are fine, but we generally avoid Aspirin in those situations. It's a virus: antibiotics don't work. You go to the doctor and he says, "you've got the flu." You say, "I'd like some penicillin." Your doctor is going to say, "you can't have any." Your doctor is exactly right, because it's not going to help you. There are medications out there that have been talked about to help people with the flu. These are antiviral medications. Antiviral medications can be used to prevent the flu and to treat the flu, but there's catches with it. They don't work magically. Some medications, like Cemitrel, can in fact work to prevent the flu. If you're willing to take a

dose of Cemitrel twice a day for the three or four months of the flu season, you probably have a 70-to 80-percent chance of not getting the flu. You have a really good chance of getting nausea, diarrhea, vomiting, and insomnia, so take your pick. With Tamiflu, you can use medications like that to try to decrease the duration and the severity of the flu once you get it, and they do work. Tamiflu will decrease the incidence of complications from the flu, and the biggest complication we worry about is pneumonia. That's why most people die from the flu. It's not the flu, it's the influenza that knocks your immune system, knocks your respiratory tract so you get a pneumonia on top of it. So it does decrease the complications, and it will decrease the duration of the flu. But it doesn't do it overnight. It decreases the duration for about a day – so you'll be sick for four days instead of five – and you have to get this stuff into you within the first 24 to 48 hours after you get the flu. Remember, you may not even know you have any symptoms for the first 24 to 48 hours. The thing I tell people is, for me myself, I need to be on death's door for at least a week before I'm going to pick up the phone and call a doctor friend to get a prescription. I'm just not going to do that – most of us tend to soldier on. When we do that, we end up missing the opportunity of even using the medication. So there are medications out there, and they are great medications, but they've got catches and they've got limits to them that you need to be aware of. With that, I'll turn it back over to Dr. Hansen to start talking about avian flu and pandemic flu.

**Hansen:** First of all, I want to talk about pandemic influenza and what that is, what it isn't. Pandemic influenza means that we've got an influenza virus that's really happening around the globe, around the world, at about the same time. An influenza virus is what we call a novel virus. It's a virus that has changed so much – that's mutated so much – that our bodies don't see it as being influenza anymore. It's still influenza, but it's mutated so much that it looks like a brand new thing to our bodies, so none of us have any immunity to it. It also has a very wide geographic spread, so it's going to happen all over at the same time. What does that mean in terms of, "why is it a pandemic? Why is it an issue?" Well the spread can be real rapid because influenza is spread from person to person by droplets or fomites and can be done very quickly (and I've got a slide here in a second that graphically shows that a little bit better). But it is transmissible from person to person, so if I cough here and infect all of you, think of all the people you know...think of all the people they know...and you can see how that could get transmitted pretty quickly, pretty fast. As Dr. Rodenberg mentioned, you're often very susceptible, or you're very likely to transmit the disease before you show any signs of illness. That's what keeps us in public health in business because people are sick before they know it. They can transmit the disease before they show any symptoms. For 24 hours before you're symptomatic, you can be spreading the virus. So I feel fine today, and if I coughed on this lectern and Dr. Rodenberg touches it and then touches his face with his hands, and I tell him tomorrow, "I've got this really bad fever (cough, cough). I just don't feel very good and I've got the flu." Now all of a sudden he did, even though I feel just fine today, thank you very much. The thing with a pandemic is because it's transmissible, because it's a novel virus, it's going to tend to overwhelm the healthcare system. It's a pretty fragile healthcare system, and we can just barely get by as it is. With a pandemic, where you have more people getting infected, it's really going to overwhelm our healthcare system. Why is that? It's because it's a novel virus. It's a virus that



nobody's system really recognizes as being influenza, so none of us have immunity to it. So we were talking about vaccine going to people whose immune systems aren't very good anymore, or aren't geared up yet to fight off influenza virus. For a pandemic influenza virus, *none* of us have immune systems that are geared up to be able to fight off the virus. It can get that way, but it takes a little bit longer. So essentially we're all two-year-olds. None of us have any antibodies, none of us have any resistance to a pandemic influenza strain. Anybody could be infected. When we talk about vaccinations during the regular flu season, we talk about giving vaccines to people who are at high risk: the elderly, the very young, those who have other chronic conditions. If we have a pandemic influenza, we are *all* high-risk. All of a sudden, the concept of high-risk goes away. Because it takes our bodies a while to figure out "Oh yes! This is influenza, so I can make antibodies against that." The virus has a chance to multiply and we're more likely to have complications. We're more likely to have more severe disease with influenza. If we're going to have a higher of complications, including the pneumonias that often come on top of that, within a pandemic influenza we always have more deaths. It just happens in a pandemic. Since all of us are sort of "two-year-olds," since none of us have any immunity, it's going to have a real impact on normal community function. So it isn't going to be just a nursing home, or just a day care, it's going to be people *everywhere*. It's going to be one out of four KDHE workers; it's going to be one out of four transportation workers, teachers, grocery store clerks. *Everybody* who is on this planet, who is human, is susceptible and may get the virus. The good news about pandemics: they don't happen very often. They're real unusual. It's usual for the virus to change a little bit so our bodies can see it as being influenza and make some antibodies. It's real uncommon for it to make a big change so that it is an influenza that our bodies don't recognize it as being influenza. That's the good news. The bad news is that it's not real predictable when it happens. It doesn't happen in any kind of regular cycle that we can look at and say, "well we know that it happens every x number of years." It just doesn't happen that way. The virus mutates, and some mutations are good for it; some aren't. How fast they happen and when they happen...we can't predict that.

A question that we get asked a lot is, can a pandemic be prevented? I'd be lying if I told you that it could, for sure. We just don't know. We've just never done it before. Have we had pandemic? Yeah, we've had pandemics probably as long as we've had humans. We certainly know about it for the last 300 years, we've had pandemics, but we've never been able to prevent one before. Can we now? I'd like to think we could, but the realities are, it's a pretty tough thing to do. So when will the next one happen? I've just told you I don't know when they're going to happen – but people still say, when the next one will happen? I'm stuck here at the podium, so I can't run up there, which is what I usually like to do. If you look at that graph- the timeline – at the lines going across from left to right, each one was a flu that human bodies didn't see as being influenza. That one was responsible for the pandemic flu of 1918 that everyone has heard about, that literally killed millions of people. In the 1950's, there was another influenza virus that humans' bodies didn't see as being influenza. It was an H2 type of virus. That was the Asian flu, for some of you who were around during the Asian flu time. Some of you, I know, are too young. Then in the 60's we had similar thing, an influenza kind of virus that our bodies didn't see as being influenza, causing the Hong Kong pandemic. We've had other viruses that have infected people: there was an H1 in the 70's, different from the H1 we

had back in 1918, and it was different enough that our bodies didn't see as being an influenza. Then you've heard a lot about the H5N1. There have been H5's, H7's, H9's. There's 16 different H types and 9 different N types. Any one of them can change too much and can make people sick. They have all gotten into our bodies and they don't see it as being influenza. So why does that concern us? Well if you look at this graph – and I know that some of you look at graphs and go, I'm done with graphs. I'll kind of walk you through this (even though I can't walk over there). Take a look at the red line. That's how long it takes to get around the world over time. Back 150 years ago, how did you get around the world? You walked. You took a horse if you had a horse. If you had a lot of money, you'd take a train. It would take you about a year to get around the world. Today, you could be sitting in Topeka, or wherever you are out there right now, and if you have enough money you can be literally anywhere in the world in 24 hours or less. If you think about that, and you know that you can be incubating the virus – meaning you have the virus in you – for 24 hours. That means that the virus can be anywhere in 24 hours or less...and it doesn't need the cash! We're a lot more mobile than we ever were. The other part of that equation: at the point where the blue line on the graph crosses the red line in 1918, we had about a billion people in the world. We had a lot of people who died. Even if we have another pandemic now where we have a smaller percentage of people dying, we've just got a whole bunch more people. We've got seven- or eight-billion people roaming around the world, roaming around the world a lot faster, and going a lot more places than they ever have before. The potential for spreading it around gets pretty great. If you're walking from place to place, you might meet a few people. If you go to an international airport, all of a sudden you can see where and how that is going to spread.

Now I am going to switch a little bit from pandemic and talk about bird flu. How many people have heard about bird flu? Glad to hear that we are not all living under rocks, that we're not working so hard that we can't see the news. Is bird flu pandemic? Well the H5N1 influenza that we've heard about has the potential to become a pandemic strain. A pandemic, once again, is a virus that our bodies don't see as being influenza and that we can pass from person to person. It certainly has that potential because it certainly can give people that influenza, but not very commonly though. In the last two years, basically, there have been 132 cases of H5N1 influenza that have infected humans. 68 of those people have died. All of those people have been in Southeast Asia. We're looking at 132 people out of a population, in that part of the world, of about two billion. So to put it into some perspective: can people get H5N1? Yes, they can. Is it a virus that our bodies don't see as being influenza? Yes, it is. Has it gone person-to-person yet? No – and that's the good news, but the virus is seen in poultry and in other birds all over Southeast Asia. We're starting to see it in the Middle East, and we're starting to see it in Europe. We know that this virus can infect humans, but what we have not seen is this virus in the western hemisphere – in birds or in humans. You would think by some of the media stuff that it's here, and it's here now, and we're all going to get it, and it's going to be bad. H5N1 – can it infect humans? Yes it can. Has it infected humans? Yes, it has. Has it infected anybody here? No. It can happen, but it's real uncommon. It hasn't gone from person-to-person. Can it infect birds? Yes. Has it infected birds? Yes. Has it infected birds in Southeast Asia? It has infected some of the migratory birds, but the good news is, which way do migratory birds migrate? North-south. So if you're looking at a map, if you're looking at Southeast Asia and you look north and south, Kansas just isn't there.

No matter how bad your geography is, Kansas is just not on the map. The thing with migratory birds is that when they go north, they may mix with some birds that would come into the western hemisphere. That's one of the concerns we have, and certainly everyone is looking for influenza. We're looking for the H5N1 and other influenzas that might make people ill. The human health departments, whether it's federal, state or local, they're all looking for the H5N1 or other influenzas that might be an issue. The veterinary and animal community is, as well, both at the federal, state, and local levels. So it's not going to be coming in and all of a sudden it's going to be, "oh my goodness where is this coming from?" We're looking for it, and not only looking for the H5N1's, but any other influenzas coming in that might make people ill.

So I'm going to talk real quickly...move on to pandemic influenza and talk about "where are we?" I want to make this a global thing. The World Health Organization talks about the world cycle of pandemics. They number the cycles, and they're numbered 1 through 6. The first two parts, Phase I and Phase II, means that we've got influenzas in humans, birds have influenzas, and it's a normal influenza season. Phase III is where we're at now, and Phase III means that we have got a novel virus – a virus that our bodies don't see as being an influenza virus – that can infect humans. Do we have that? Yeah. The H5N1, we know, can infect humans. Even within that Phase III, there would be some very rare human-to-human spread of that virus. Do we have that yet? Hard to say; they're still working that out, but if we do it is very, very rare. As we go on through Phase IV, Phase V, and Phase VI...Phase VI is a virus that our body sees not as influenza, but as something else – a new virus – and it's spread from person to person all over. Not just a little place of the world here, a little place there, but all over the world. That's when we have a pandemic. That's Phase VI. What you don't notice on here is that there is no timeline. I can't tell you how long it takes to go from Phase I to Phase II to Phase III. That has more to do with the virus than anything that we can say will happen with any regularity. It's not going to take days. It's not going to go from Phase I to Phase VI in a day. It's going to take longer, but I can't tell you if it's going to take weeks, months, or years. So when we're talking about pandemic influenza, if it doesn't happen this year, which I don't suspect it will, doesn't mean that we were wrong. We may have [pandemic] influenza next year, it may be ten years down the road. I don't know, because I don't know how long that timeline is, and it is an irregular timeline. With that, I'll turn it over again.

**Rodenberg:** There are very few cartoons out there about pandemic flu. This is one of the few that we've actually found. If you can't read the caption: you've got two canaries in a cage and it says, "If you want to see them completely freak, just *sneeze*." Dr. Hansen shared with you a little bit about what pandemic flu is, what it's about, and how it's different than bird flu. What I'd like to talk a little bit about is what we've done as far as planning for pandemic flu. The Kansas pandemic flu plan has been cooking for about four years now. They started working on it in 2000 and 2001. Our [plan] is actually one of the first to come out in the country – well in advance of the federal plan, and well in advance of many of the state plans. So we're real pleased with this as far as it being progressive, and we wanted to share with you some of the nuts and bolts of what's in it so that people could know what we're looking at as we work with the state. There are really three focus areas within our plan. The first area is surveillance, and surveillance is the

cocktail party word for “looking out.” Right now, during any flu year, we have what are called sentinel practices – or 21 sentinel sites out within Kansas – where we have doctors’ offices, clinics, ER’s giving us reports every week of how many people have influenza or symptoms that are suggestive of influenza and taking cultures of folks so we can figure out what kind of influenza strain (or influenza type) is actually active here in Kansas. We’re looking at beefing that up for pandemic influenza but realize that we’re not the only ones looking for it. As Dr. Hansen mentioned, everybody – every state, every country, the World Health Organization, everybody – is looking for this stuff, and that’s all integrated into our plan. So whereas we may not know what the lead-time is going to be, I don’t think anyone is going to be caught by surprise because we’re watching these things like hawks. The second phase that we deal with is emergency response, and normally when we talk about emergency response and emergency management in public health, we talk to the usual players like the hospitals, the doctors, the pharmacists, and the EMS guys – things like that. Remember what Dr. Hansen said about the fact that all of us are equally susceptible to pandemic influenza, because none of us have any immunity. If you look at the demographics of how society works, it means that the impact of pandemic influenza is going to be worse than if you just had an exacerbation or a worsening of a regular influenza season, because the high-risk population is different. Normally our high-risk populations are the older folks, the younger folks, the folks with chronic diseases. In a pandemic situation, everybody is equally susceptible. There are a lot of models out there that tell what attack rates are, and they range from very, very conservative to very radical. We work with a middle-of-the-road one that predicts that roughly one in every four Kansans, at some point during the pandemic influenza season, would get sick. That doesn’t mean that one in four would die. That’s a different issue that we’ll talk about in a minute. But one in four people will get sick during the influenza season, and as Dr. Hansen mentioned, that’s not just one in four people in nursing homes or one in four hospital patients. It’s one in four schoolteachers, one in four students, one in four people who work in the grocery store, one in four firefighters, one in four law enforcement officers. It goes all the way across the board. So when we talk about planning in a community response, we truly mean that we need to reach out beyond the usual players and get law enforcement, and the Chamber of Commerce, and the Department of Education, and the Kansas Association of Counties – all those folks involved in the planning effort because it’s going to affect everyone. As health folks, it’s certainly not our area of expertise to tell, for example, a police force or a law enforcement officer, “here’s how you have to staff different.” We don’t know how to do that, but what we do need to do is we do need to communicate the information to all of our community partners that “here’s what we’re up against” so we can all make our contingency plans, and we can all be on the same page with that. That’s happening at the state level. We have developed templates, and we encourage our partners at local health departments to do the same. Most of them are doing that very same thing. One of the things that Dr. Hansen and I do is that when we go around – we do these public forums mostly at night – but during the day we’ll go around to local health departments. I think Dr. Hansen would echo this: that the majority of the ones we visit, when we talk to the local health department about pandemic flu, they’ve also invited county commissioners. They’ve invited the local law enforcement people, local people from the hospital. So we are building those relationships both at the state and at the local level.

Vaccines and antivirals we'll talk about in just a minute in more detail. Isolation and quarantine are public health tools. They are in our plan. Realistically, I don't know that they are going to be our first line of tools. People move so quickly, and there are so many way in and out of towns, if you will, and in and out of communities now that it's not as in 1918, where you'd shut down the railroad line and you'd shut down the highway. There's too many ways...our society is too mobile and fluid. Yeah, we have these things available as tools. We may be able to use them in selected circumstances, but I don't think they're going to be real widespread. We also talk about communications and informing the public. This is part of what we're doing now. We want to get the right information out to folks at the right time. We want to tell folks what we know, and we also want to tell folks what we don't know, because I truly believe that the only way we're going to be able to do this as a community is if we're all working off the same page. The situation is going to keep changing; the targets keep changing; the information is going to keep changing. There are going to be things we know; there are going to be things we don't know. Again, our commitment to you and to the whole community is to tell you what we know, tell you what we don't know, but always to tell you straight-out what's going on so we call all work and be on the same page as we try and respond. The plan is actually a living document. I hate the word "draft," because "draft" implies that something was thrown together at the last minute, which is not what has happened with this. This thing has been cooking for a number of years. It is a living document in the sense that the target keeps changing. We don't know when the pandemic is happening. Is it happening in six months? Two years? Ten years? We don't know. Is it the H5N1 bird flu? Is it something else? Will we have vaccine? Will we not? The target keeps changing, so we need the plan to be able to keep changing. The other thing, too, is even though we like to think that we have all the brain power in the world here at KDHE, but every now and then we all face reality and realize that's not true and that people probably have input outside of us that can be real useful. Actually going around to these public forums, we've already gotten good input from folks on things that we hadn't thought of, or things that we could refine, or "land mines" that we hadn't seen. So by all means we encourage you, if you have an interest, to take a look at the plan: [kdheks.gov](http://kdheks.gov). It's in a big yellow box right on the front on the home page. Take a look, and if there is something in there that you think you can contribute to, please let us know because we really value those contributions.

There are two hot topic areas that I want to talk about before we wrap up and start with questions. Both of these revolve around issues that have gotten an awful lot of play in the press, especially in the conjunction with the federal government's pandemic flu plan. One of them has to do with vaccines. The pandemic flu plan from the government asked the states to stockpile vaccine. The Feds are going to stockpile 40 million doses of vaccine, and they're asking the states to stockpile vaccine. There are a number of issues with that; it's not cut and dried. The first one, from the state's standpoint, is what kind of vaccine do we buy? As mentioned, H5N1 is a candidate for what might cause the pandemic, but we don't know for sure whether H5N1 bird flu is what's going to cause the pandemic. You hate to make a large investment in stockpiling vaccine when you're not exactly sure what you've got. So that's one problem. Now people will ask, do we have a vaccine for the bird flu? In fact, there actually is. The federal government has contracted/they've made about two million trial doses of the vaccine for the H5N1, or the

bird flu. I can't get it. Your doctor can't get it. Your county health department can't get it. It's locked up in the CDC's vault someplace, but there is a vaccine to bird flu. There are a couple of catches to it. One is that it would take two shots instead of one. The second is that the dose of the vaccine actually is higher than it is in the current flu vaccine. Again, there's nothing wrong with the vaccine; it all goes back to immunity works. If you think about kids: you give them a shot to get the antibody response going, and then you give them boosters to get more and more of a response to fight off the disease. Because a pandemic flu virus is something humans have never seen, it's like starting from scratch on a kid. You have to give them a first dose to get some response, and the second dose then becomes the booster dose. If in fact we have enough lead time for the pandemic flu, and we know that it is going to be H5N1, then the next hurdle we run into is vaccine manufacturing capacity. Right now, over the course of a flu season we can make as I mentioned 70 to 80 million doses of flu vaccine in this country. One of the things the federal government did exactly right in their plan is that they put several billion dollars into vaccine technology development. There probably are ways to make vaccines better, smarter, faster, cheaper, larger volumes, but it's going to take new technologies. Right now we grow this vaccine in chicken eggs. It's going to take vaccines RNA technology, DNA technology, things of that sort to really make it faster. The federal government has invested in that. So if, in fact, we have enough lead-time for that investment to pay off, and we know what the strain well in advance, we may come out of this okay with vaccine; we may be able to make enough. It is not as cut and dried as sometimes the media makes it seem. There are some real issues there with vaccine supply. The same is true with antiviral medications. There are people right now who are trying to stockpile Tamiflu and other antivirals like that. We're actually discouraging that for a number of reasons, and there are a number of professional associations that do, as well. One of them is you would hate to stockpile something just to find that the medication has actually expired when you need it. Second is that we don't know if the pandemic flu virus, whatever it is, is actually going to be sensitive to the medications. We already know that the H5N1, the bird flu virus, is becoming resistant to the Cemitrel product. We don't quite know that. The third thing, that especially bugs me just from a doctor's standpoint, is you can see people hoarding this stuff and then selling it to the highest bidder, which is just piracy. That's just wrong. The other issue is that when you stockpile, especially with antiviral medications, you run the risk of taking medication away from the people who actually need it. The Roche Company, who makes Tamiflu, has actually recognized this. They've done a great responsibility thing, the absolute right thing to do, in that they're not selling big lots or big volumes to people. If they can help it, they won't let you stockpile it. You can still get the medicine if you need it. Your pharmacist has to fax the prescription to the company. The pharmacist has this – it's not like they have to send off for it – but they have to send a prescription to the company so the company can keep track of where this stuff is going. So if the company suddenly gets 1,000 prescriptions from one pharmacy or one wholesaler within an hour, they know there's a problem. They did that because they were concerned that people would be stockpiling and medication wouldn't be available for people who actually needed it. It just reflects that this whole thing is a real delicate balance. Where's the bright spot? The bright spot is that investment in technology. If we can make this stuff better, smarter, faster, cheaper, and larger volumes, we may be alright if and when pandemic flu actually happens.

With that, what can you do? You think about – not only in this upcoming flu season this winter, but pandemic flu – if you'll let me steal a line from Casablanca, you can remember that "the flu is still the flu." The common sense stuff you do to prevent yourself from getting the flu in the regular flu season is the same stuff that you'd do in a pandemic flu season. Pandemic flu is contracted the exact same way. It's contracted the same way. It's treated the exact same way. The same things you do – wash your hands, cover your nose and mouth when you cough, stay at home when you're sick, rest, fluids, Tylenol – that stuff will still work. A lot of times when we give these lectures and these talks across the state, someone will ask a variation of the question that basically is: "Are you scared personally? Should we be scared?" The answer I always give – and I truly believe this, I'm not just being politically correct – is that we should be concerned, but we should be confident. I am personally concerned enough that myself, the whole epidemiology staff, everyone is checking the Internet every day to find out where this virus is. We're concerned enough to be developing a plan. We're concerned enough to be looking for holes in the plan – things we can fix, things we can do better, contingencies we can work around. We're concerned enough to be going all around the state to talk about this, hopefully to motivate local communities to do more planning. That being said, I'm confident that with all the concern and all the effort we're putting into this, we can get Kansas to a point where we can have a really good response to pandemic flu. I can't sit here, in all honesty, and tell you that if pandemic flu hits Kansas, there will be no effect at all or we can make it go away. That would be foolish of me to say that. I do believe that by working together, by getting the information out, by getting everybody to the table, I do believe we can decrease the impact of pandemic flu on Kansas. That's where my confidence comes from is the ability for us to work together to minimize the impact of this on the state. So you can keep yourself and your family safe from flu – now and in the future. It's the common sense stuff. Dr. Hansen found this great quote about pandemic flu: "The pandemic clock is ticking; we just don't know what time it is" (by E. Marcuse). Which is true, but also after you talk for an hour, you get a little slap-happy, so I put that [quote on screen: "Does anybody really know what time it is?" (by music group Chicago).] on the end of it. It gives me a chance to mock a song I *really* hate. We won't even talk about 15 or six to four because I have no idea what that one means. Certainly it is time for any questions you might have, and we're happy to entertain them and certainly thank you for your time over the lunch hour to come and talk with us. So thanks.

**Question:** How long is the virus viable (how long does it live) outside the body once you sneeze or cough?

**Hansen:** We get that question asked a lot, and I wish I could give you an absolute answer. It really depends on the temperature and the humidity and other conditions. So I can't tell you for sure. Usually it's a couple of hours. We're not talking about weeks and weeks, so next week or probably even tomorrow when Secretary Bremby comes and he touches the podium, he's probably ok. But I can't tell you it's an hour and fifteen minutes, because it really is dependent on too many environmental factors. Long enough so that he's in trouble [points to Rodenberg].

**Question:** The current Men's Health [Magazine] has suggestions in their November issue, and it talks about things like grape juice as good for killing the virus. It talks about buying surgical masks, and I know that the local PBS television station has had some documentaries. One of the things that they were pointing out was that the cheaper masks are the kind that people could have used back then, but the virus is so small that it could go through them. So I think one of the problems is that you can see a lot of people making money off of scaring people to buy stuff, but the other side of it is there might be some things that we can do that could help.

**Hansen:** The question was that there are things that people may be able to do to help themselves, or certainly to help themselves when they get the flu, to get through it. Grape juice and other fluids will work. We've also had people trying to cash in on people's fears, so to speak, and I did have a nursing home in western Kansas that called a couple of weeks ago because they were told by a distributor that they had N-95 masks for sale, which is a special mask that has to be fitted on you that will keep you from getting just about anything except air – and just barely that – through. If they didn't buy the N-95 masks, then their folks were going to die of bird flu and "oh, by the way, they cost five times more than they did the week before!" They asked me what they should do, and I said call the Attorney General because that's price gouging. That's illegal in Kansas. There are probably other things you can use. Yes the virus is small, but it is spread by droplets. An N-95 mask that's tight up against your face (which you can't wear for three months anyway, by the way, day and night because you'll just die from trying to breathe through it) probably isn't going to work. A mask – if you're in an area where people are coughing. Does grape juice work? I know there was a big one [story] on sauerkraut a couple of weeks ago because some researchers found that if they fed kimshi (which is like sauerkraut) to birds, it would keep them from getting flu or so-called "cure" the avian flu. Just like with anything else, there's going to be a lot of pseudo-science that's out there. [To Rodenberg:] You probably want to address treatment more than I do.

**Rodenberg:** There is going to be a lot of pseudo-science. There are going to be a lot of claims out there. There is going to be a lot of scare tactics. I think the biggest thing to remember is that "the flu is still the flu." The difference between the pandemic flu and any other flu virus is simply the immunity factor. It is not that it's transmitted any differently; it's not that it's treated any differently; it's not that the complications are any different than they are with the regular flu. Yeah, there is going to be a lot of things out there, and there may be some truth to things. Chicken soup was a myth, and we all did it for years and years, and somebody actually studied it...and it actually worked. So who's to say there might not be something in grape juice or sauerkraut that may help. But the fact is, the thing that I keep in mind is, "the flu is still the flu." The common sense stuff that you do now is still going to be the stuff that works even in a pandemic [flu] season.

**Question:** How do people get bird flu?

**Rodenberg:** There's a bunch of layers to that question, so let me answer it one way and if that's not the way you asked the question, then you tell me different, ok? Right now the people who get the bird flu, or the H5N1, are getting it from real close contact with the birds. This is not walking by a market where they have live birds or something. These are



those dirt-poor folks out in Southeast Asia who literally live with their poultry and live with their flock. If their birds get the flu, the bird flu virus is in all kinds of bird secretions – saliva, droppings, everything – so they're around this all the time. It's very tight, close contact, and those are the cases we've seen so far. We haven't really seen human-to-human transmission. We haven't seen it a casual sort of thing. So even to some extent, if you were walking by an open-air market in Vietnam where there happened to be some bird flu, as long as you weren't actually in there gutting/dressing a chicken you'd probably be just fine. The biggest concern we have is that, because this is a new virus, if it is to shift to a form where it is easily-passable between humans, then we'd have the problem. Does that answer your question?

**Question:** Can you get it from eating a bird that is infected?

**Hansen:** The answer is no, you can't. In cooking the bird, and most people aren't eating them raw, cooking will kill the virus. I do tell people don't eat road kill, though. [joke]

**Rodenberg:** As we go around, we get all of these wonderful little stories that we hear. I guess it was about a week and a half ago that we heard that Kentucky Fried Chicken already has a set of ads apparently – it may be true or not, but it's a great story even if it's not – they already have a set of ads ready-made so that if the pandemic flu happens, they can push a button and it goes out over the advertisement. "We fry the virus out of the bird," or something like that [crowd laughs].

**Question:** I know that we don't have the H5N1 here in the western hemisphere, but is it true to go ahead and get a regular flu shot, and then when that other stuff comes it will help you fight that infection? And the two-part of that question: is the Governor looking at being instrumental in seeing that her state employees can access the regular flu shot?

**Rodenberg:** There's a couple of layers to that question, so let me address the first one. The flu vaccine every year is tailored to the strains that they anticipate. If in fact – and I'll set up a worst-case scenario – if tomorrow we all get blasted by H5N1, even if all of us have had the flu vaccine for this year's anticipated strains, the benefit is probably pretty negligible. It's all a function of what that vaccine is designed to do. That means that the Governor and KDHE are concerned about giving whatever vaccine we may have to all the Kansans. During a regular flu season, we want to try and get it to those high-risk folks. During a pandemic season, we want to try and identify those folks who are most crucial to the infrastructure and give the vaccine to those folks. Sometimes they are state employees; sometimes they are in the private sector; and people in other sectors as well. The commitment is to get it to the people who need it the most.

**Question:** One of the slides you had up earlier with data from Southeast Asia had about a 50 percent mortality rate. Is that – if the virus mutates and we see that here – what we're expecting, some kind of mortality rate like that, or do those people have a lower level of healthcare that might be causing that?

**Rodenberg:** Well, there is a lower level of healthcare, but there's another piece to it, and I'm glad you brought that up. The question, for the "home viewers" – this whole internet thing is still a little bit unnerving to me – was that "if we have a mortality rate of 50 percent in Southeast Asia, is that what we're going to see if it shows up over here?" The answer to that is no. We do have models that look at attack rates, and they look at mortality rates, too. The model we use predicts in excess mortality rates (these are deaths that would be expected, such as heart disease, cancer, strokes, things that kill people all the time) of about 1,000 to 2,500. The reason that number is so much lower than you would think – if we talk about one in four Kansans getting affected, that's roughly 700,000 people – but that low number of 1,000 to 2,500 deaths is several-fold. The biggest factor is that as viruses become more transmissible, they become less virulent, or less severe. This is something we see historically with virtually every virus family. Dr. Hansen gave me this great analogy: if you think like the virus or "be the virus," what you want to do is keep propagating. You want to spread your DNA, or your RNA, every place that you can. If you got into a body and you killed every host that you encountered, then the virus couldn't propagate; it wouldn't go anywhere. It's in the virus' best interest to become less virulent and less severe as it becomes more and more transmissible. We see that with virtually every virus family. Even if you think about it, We all read about the epidemic in 1918 (and there's a great book called The Great Influenza about that) even though an awful lot of people died, the vast majority of people who got the flu felt cruddy for a couple of days and then got better. It's a function of the fact that, as they become more transmissible, they become less virulent. There are some other factors that figure into why our death estimate is relatively low. Not to say that that's good, because any excess death is still one too many and still one that I want to try and prevent, but the other reasons are a couple-fold. First of all, now we know what we are dealing with. Back in 1918, we sort of knew what a virus was, and we sort of knew what antibodies were. The way you treated flu was you took blood plasma or serum from someone who had the flu and had gotten better, and you injected it into somebody who still had the flu to see what happened. That's how it was treated. That was the height of science then. We have a little better idea of what we're dealing with. We know how to build a surgical mask, for instance, to really stop droplets spread. We know that the most common complication from influenza that leads to death is pneumonia. Now we've got pneumonia vaccine; now we've got antibiotics; now we've got respiratory support devices. So there are a lot of factors that play into why that number is so low, but the chief one is just the natural history of the virus. As they become more transmissible, they become less virulent. I'm actually glad that you brought that up because that comes up real commonly.

**Question:** Are you encouraging everyone to get a pneumonia vaccine?

**Rodenberg:** That is one thing that we do is we encourage people to do is to contact their health care provider to see if they can benefit from pneumonia vaccine. A lot of times these are older folks; these are people with chronic diseases. Pneumonia vaccine doesn't protect you from every form of pneumonia. In fact, it protects you from the most common one, which is a bacteria called *streptococcus pneumoniae*, but yes that is absolutely something that we encourage people to do is to talk to their healthcare

providers about pneumonia vaccine. If pandemic flu does come upon us, you'll probably see us pushing that a lot harder.

**Question:** How long is the immunity from being vaccinated for pneumonia?

**Rodenberg:** The recommendations differ. Some people recommend anywhere between every five and ten years. Some people recommend that you can get it every five years, up to a maximum of two shots. There is still some give-and-take about how often you can get it and how many shots you can give of it. The number I've always used when I was practicing is roughly, if you haven't had one in five years, you're probably due...if you're a high-risk person.

**Question:** During a pandemic, what is the role of KDHE at different levels of the organization?

**Rodenberg:** I'll tell you what I see my role as, and I have shared this with the public groups all around the state. I see my role as providing information; as trying to grab resources; as "running interference," if you will. I'm really looking for local health departments to do a lot of the ground work, and when I say that, the local health department people go, "Oh, God, the state is dumping on us again!" That's not what it is, and I can say that as a former local health department director. The fact is where I can figure out what the state needs – I can acquire resources from the state, and I can distribute things – I don't know the specific needs of Shawnee County versus Finney County versus Cheyenne County versus Sedgwick County. Nobody has got that much knowledge, but the local health departments do. So where I perceive my role – at the executive level, if you will – is to provide the right information to folks, to the media, to our policymakers, so we can make smart decisions. If we need to "run interference," if there's hurdles that I can help overcome, I'm perfectly happy to do that. If there are resources that I can find, or dig up, or transfer, I think those are really my many roles in a pandemic.

**Hansen:** When he says "his," he really means "ours." I think what the roles are going to be are to run interference, to get that information – asking folks at KDHE, can you help me get this information – maybe being asked to help track disease. Certainly coming to these forums, you have the education and you can tell people. People will say, "Well you work for the health department. What's the deal with this?" Up and down the agency, we can all be equally informed so that we can know what is going on. We can bust those myths if you will and tell people what we know, what we don't know, help give information, and make suggestions. People may say, "You may say that we need to do this, but I've been watching in my community/the area that I work in, and that ain't working. But I think this might work." I certainly see that as part of it as well.

**Rodenberg:** One other thing that Dr. Hansen alluded to is that if pandemic flu happens, we may find that roles and responsibilities change. People at KDHE have to be prepared to come out of whatever their job is and do something new. We don't quite have all of the land mines worked out. That's a part of why we're out talking to people and getting some

feedback. We may need KDHE people suddenly to figure out how to run Meals for Wheels, or suddenly figure out how to supplement nursing home staffing. We don't know what the land mines are out there, but I do think it's important that everybody in KDHE realizes that they may have to be flexible and step out of their role. The answer "that's not in my job description" just isn't going to work under those circumstances.

**Hansen:** Just because you're not an infectious disease epidemiologist doesn't mean that you can't treat at least part of that stuff.

**Question:** My question stems around the school systems. I was curious as to whether any outreach (or a mechanism for that) has been enacted, such as visiting individual schools within systems, or is that part of the individual health departments? And I'll just caveat that comment with this: whether you have been to your child's school, depending on whatever level, you'll probably see an absolutely atrocious regimen of handwashing. You assume that teachers are at least telling the kids to cover their coughs, or wiping down the computer keyboards, or whatever, and it's not happening.

**Rodenberg:** The question was, for anybody who wasn't able to hear it, what are we doing with the schools because schools are going to be places where disease can be passed back and forth. As part of our pandemic flu working-group, we want to bring the Department of Education to the table with the idea of sharing the information we know so they can make the appropriate plans. We're also looking at developing educational packages for certain segments of the public. One is an abbreviated version of this talk for the Lions' Clubs, the Optimists' Clubs, church groups, things like that. We're looking at a version for healthcare workers, and one of the things on the agenda (it's not happening yet) is to develop a similar kind of pack-and-play educational program for the schools so they can use that in their settings. I think the biggest thing that we need to do is to work with the Department of Education and get them to the table, so that they can pass out the appropriate information to their districts, and I think that is happening at the local level, as well.

**Question:** Why isn't my four-month-old daughter able to get a flu shot?

**Hansen:** It really has to do with the fact that, when you are four months old (or under six months old), your immune system just can't make antibodies. So if you give a four-month-old a flu shot, basically you've wasted that flu shot, because their bodies just don't have the capabilities of making antibodies to get over the flu. As they get older, they develop it more and more. Can I say that absolutely happens at six months? No, but you sort of have to go with the odds. That's why kids get a series of shots, because as their immune system gets better and better, they get better and better at making antibodies. For the most part if they are under six months old, they just can't make antibodies well enough that the flu shot is able to stimulate their system to make antibodies.

**Rodenberg:** We really appreciate you spending your lunch hour with us.